

Notice of Allowability

Application No.

10/529,493

Examiner

Sarah Song

Applicant(s)

BUGAUD, MICHEL

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 6/23/06.
2. ☒ The allowed claim(s) is/are 9-16, 18-26, 28 and 29.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 0905.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Lee Stepina on September 15, 2006.

The application has been amended as follows:

Claim 9 (Currently Amended): A pressure sensor comprising:

an optical wave guide;

a first reflecting element formed in a portion of the optical wave guide, the portion being submitted to pressure;

means for lateral support of the portion of optical wave guide, wherein the portion of optical wave guide is submitted to a compression prestress with a small value compared with a measurement range of the sensor;

a housing; and

a membrane that is subjected to pressure and closes the housing,

wherein the sensor acts in compression;

wherein the portion of the optical wave guide is placed in the housing and comprises first and second ends that are fixed to the membrane and to the housing respectively, [[and]]

wherein the means for lateral support comprises means for preventing buckling of the portion of optical wave guide when compressed, and
further comprising a gap between the means for lateral support and the membrane.

Claim 17 (canceled).

Claim 18 (Currently Amended): A sensor according to claim [[17]] 9, wherein the means for lateral support is fixed to an axial end of the housing opposite the membrane and extends along the optical wave guide toward the membrane.

Claim 19 (Currently Amended): A pressure sensor comprising:
an optical wave guide;
a first reflecting element formed in a portion of the optical wave guide, the portion configured to be submitted to pressure;
a lateral support configured to support the portion of optical wave guide, wherein the portion of optical wave guide is submitted to a compression prestress with a value less than a measurement range of the sensor;
a housing; and
a membrane configured to be subjected to pressure and that closes the housing,
wherein the sensor is configured to sense a compressive force;
wherein the portion of the optical wave guide is disposed in the housing and comprises first and second ends that are fixed to the membrane and to the housing respectively, [[and]]

wherein the lateral support is configured to preventing buckling of the portion of optical wave guide when compressed, and

further comprising a gap between the lateral support and the membrane.

Claim 27 (canceled).

Claim 28 (Currently Amended): A sensor according to claim [[27]] 19, wherein the lateral support is fixed to an axial end of the housing opposite the membrane and extends along the optical wave guide toward the membrane.

2. The following is an examiner's statement of reasons for allowance: Hay et al. discloses a Bragg grating pressure sensor comprising a lateral support. The prior art of record does not disclose or reasonably suggest a membrane, wherein the waveguide is fixed to the membrane and wherein the sensor comprises a gap between the means for lateral support and the membrane. Maron et al. discloses a pressure sensor comprising a lateral support 70 and membrane 62, wherein the waveguide is fixed to the membrane and the lateral support abuts the membrane (see Figures). However, the prior art of record does not disclose or reasonably suggest to one of ordinary skill in the art the modification to provide a gap between the means for lateral support and the membrane of Maron et al. There is no apparent reason why one of ordinary skill in the art would have modified the sensor of either Hay et al. or Maron et al. to further comprise the

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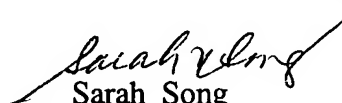
claimed gap without undue hindsight. Therefore, claims 9-16, 18-26, 28 and 29 are allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Sarah Song
Primary Examiner
Art Unit 2874